Trending technologies

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OUTLINE

- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

EXECUTIVE SUMMARY

- The most popular technologies are web-based one such as JavaScript, HTML.
- Among all web-based frameworks, the hottest areas area React.js and jQuery.
- Windows and Linux still dominate all developing platforms.
- For mobile platform, Android wins by no contest.
- Although MySQL is still the most used database, MongoDB and PostgreSQL show increasing trend of applying in the future.

INTRODUCTION

- The technology market changes quickly every year.

- It is important to catch-up with the latest technology in each field.

- The comparison between current & next year technology trend will provide great insight into the market.

- The study consist of 4 main parts:
  - Top language using
  - Top database using
  - Top platform using
  - Top web frame using

METHODOLOGY

- The technology trend is studied by comparing current and future technology usage.

- The data was from the 'Stack Overflow Developer Survey 2019'.

- Different type of charts, such as bar, line, pie, tree-map … will be used to visualize the result.

- The IBM dashboard is used to analyses data and create visualization.
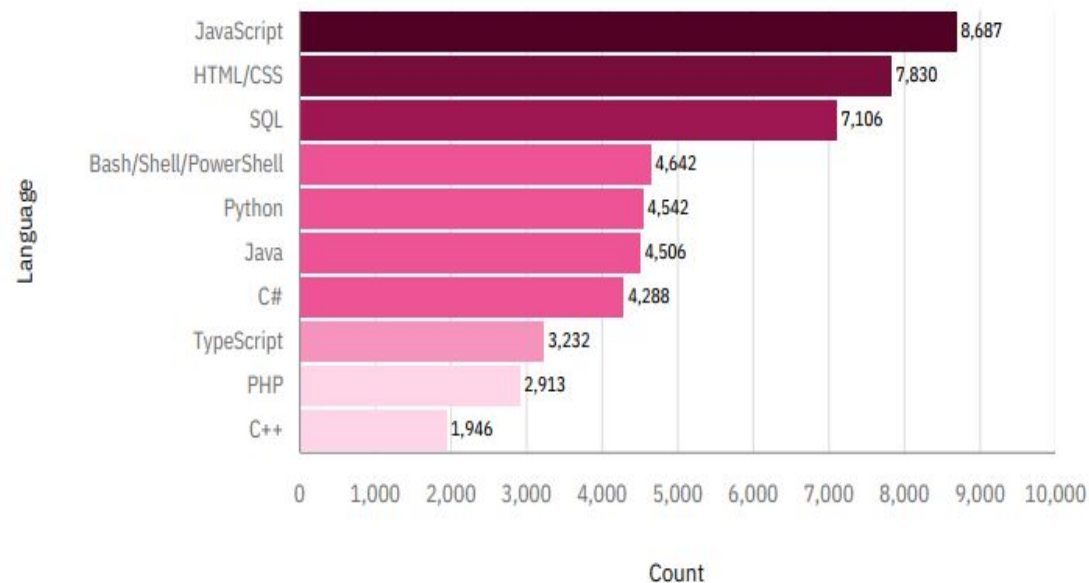
RESULTS

- The results consists of 4 main parts:
  - Programming language trend
  - Database trend
  - Platform trend
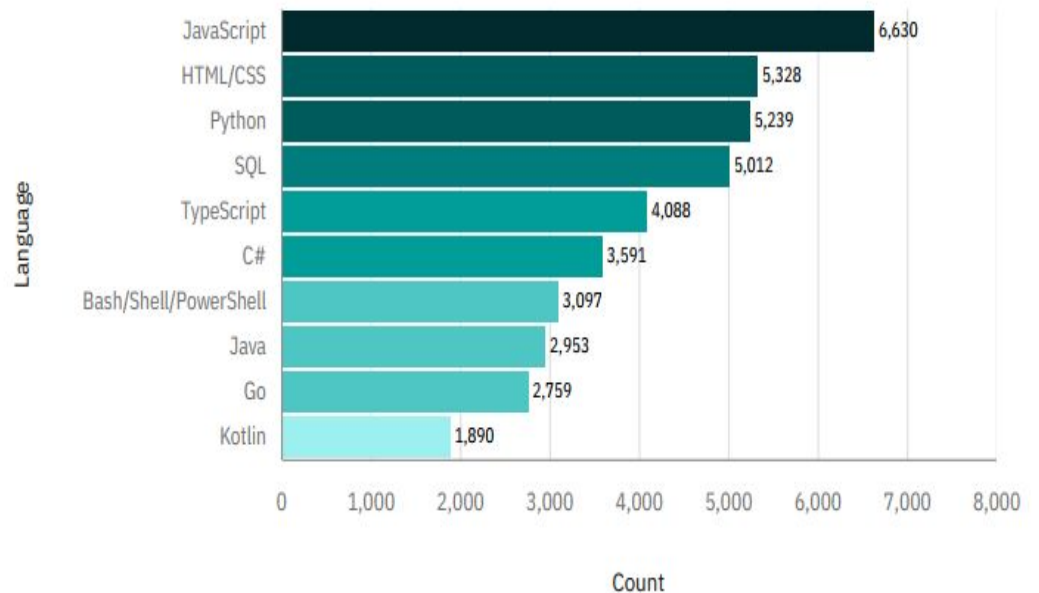 - Web frame trend

PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 Languages Worked With

Language	Count
JavaScript	8,687
HTML/CSS	7,830
SQL	7,106
Bash/Shell/PowerShell	4,642
Python	4,542
Java	4,506
C#	4,288
TypeScript	3,232
PHP	2,913
C++	1,946

Next Year

Top 10 Languages Desired Next Year

Language	Count
JavaScript	6,630
HTML/CSS	5,328
Python	5,239
SQL	5,012
TypeScript	4,088
C#	3,591
Bash/Shell/PowerShell	3,097
Java	2,953
Go	2,759
Kotlin	1,890

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript & HTML/CSS are top programming languages for both current and future trend.
- Python moves from 5th position to 3rd position in top 10.
- C++ and PHP area disappearing from top 10.
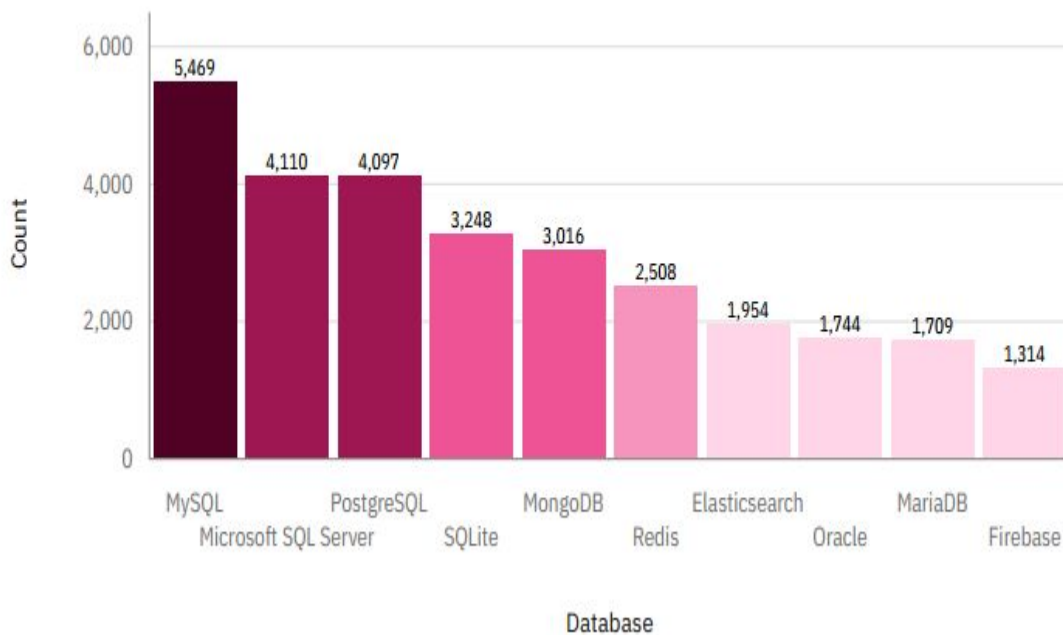- Java decreases ranking

Implications

- Web programming languages still stay dominance in near future.
- Python & data science is becoming more and more important.
- Legacy language such as C++, PHP … are gradually falling out of interest.
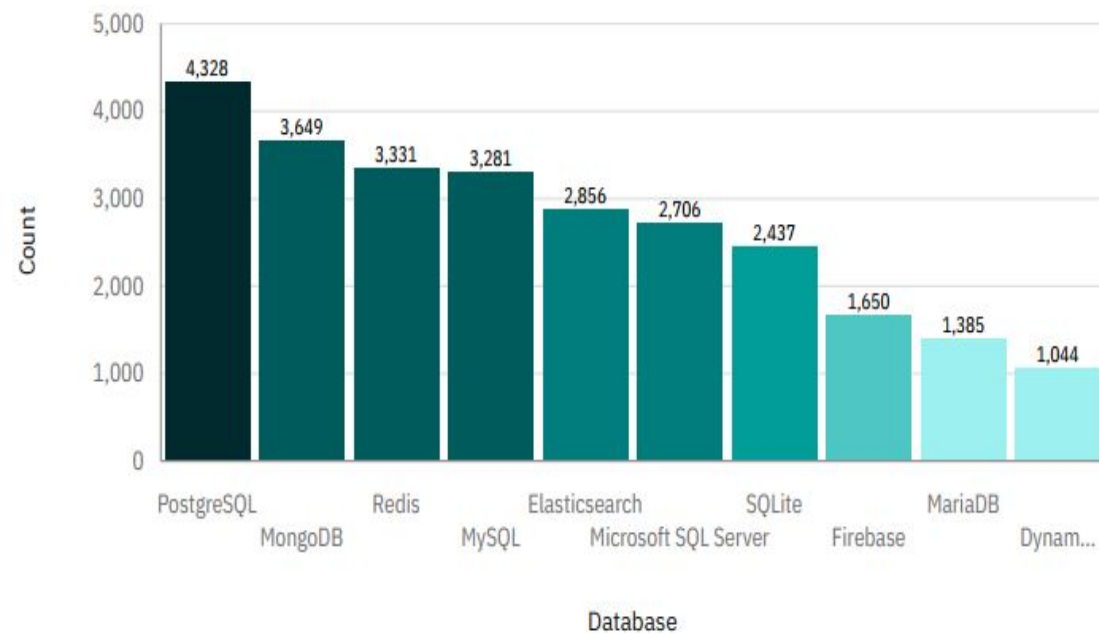- Mobile programming rise up

DATABASE TRENDS

Current Year

Next Year

Top 10 Databases Worked With

Top 10 Databases Desired Next Year

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DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MongoDB & Redis quickly moves up to No.2 and No.3

- PostgreSQL moves from No.3 to No.1

- MS SQL server drops from No.2 to No.5

- Oracle disappear from top

Implications

- Open source database becomes more and more popular compared with commercial one.

- Non-relational database see increasingly usage in the future.

- Relational database still takes a leading position in the near future.

- The diverse range of database systems utilized by developers indicates the importance of selecting the right tool for the job, considering factors such as data structure, scalability, and performance requirements
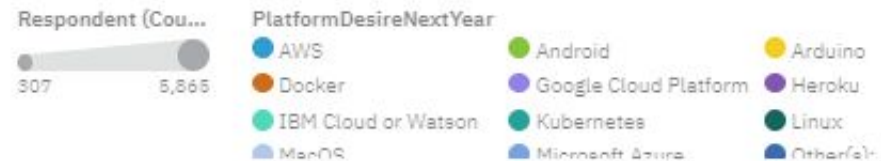
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PLATFORM TRENDS

Current Year
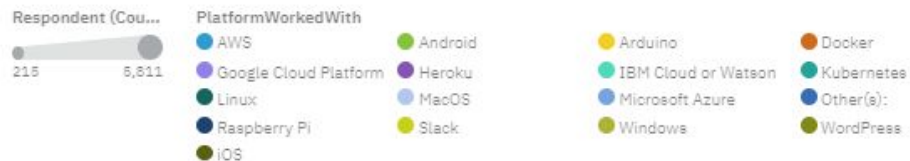
Next Year

PLATFORM TRENDS - FINDINGS & IMPLICATIONS

Findings

- Windows and Linux still dominates the platform trend.
- Android is No.1 in mobile platform.
- Cloud platform such as Kubernetes, Docker, AWS is getting more and more market share.
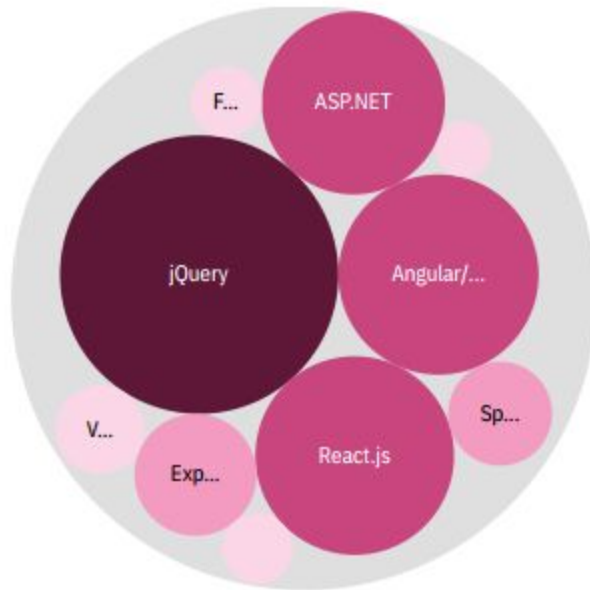
Implications

- Windows and Linux are still main developing platform in a foreseeable future.
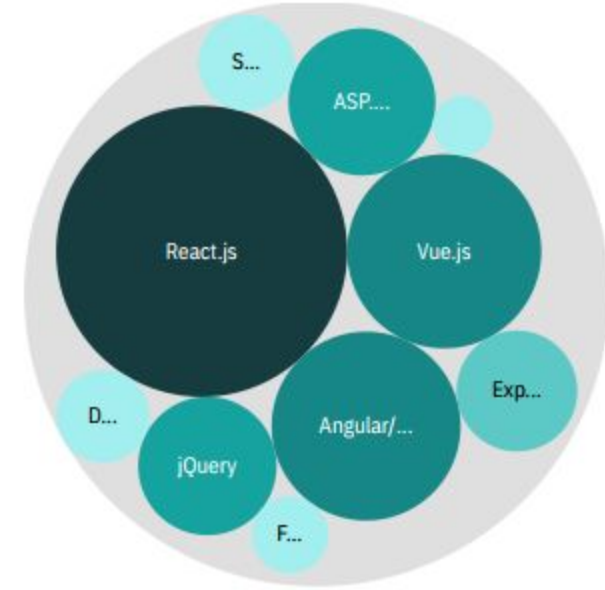- The transformation to cloud computing is a non-reversible process.

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WEB FRAME TRENDS

Current Year

Top 10 Web Frameworks Worked With

939   4,629   939   4,629

Next Year

Top 10 Web Frameworks Desired to Work With Next Year

970   4,714   970   4,714

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WEB FRAME TRENDS - FINDINGS & IMPLICATIONS

Findings

- jQuery decreases from No.1 to No.4.
- React.js moves up from No.3 to No.1
- Vue.js moves from No.9 to No.3.
- AngularJs stays at same position.

Implications

- jQuery quickly loses market share show lack of interest in its future development.
- React.js and Vue.js becomes the new standard for web frame development.

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DASHBOARD

You can find the dashboard link below:

https://github.com/vannguyen80/ibm

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DASHBOARD TAB 1

Current Technology Usage

Top 10 Languages Worked With

Language	Count
JavaScript	8,687
HTML/CSS	7,830
SQL	7,106
Bash/Shell/PowerShell	4,642
Python	4,542
Java	4,506
C#	4,288
TypeScript	3,232
PHP	2,913
C++	1,946

Top 10 Databases Worked With

Database	Count
MySQL	5,469
Microsoft SQL Server	4,110
PostgreSQL	4,097
SQLite	3,248
MongoDB	3,016
Redis	2,508
Elasticsearch	1,954
Oracle	1,744
MariaDB	1,709
Firebase	1,314
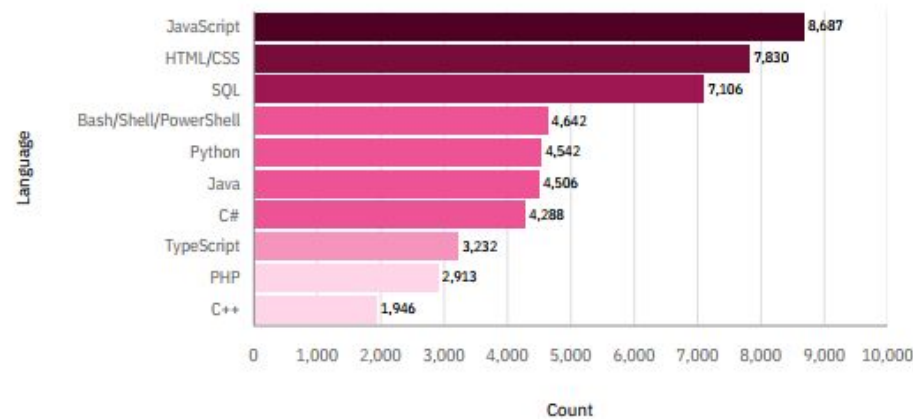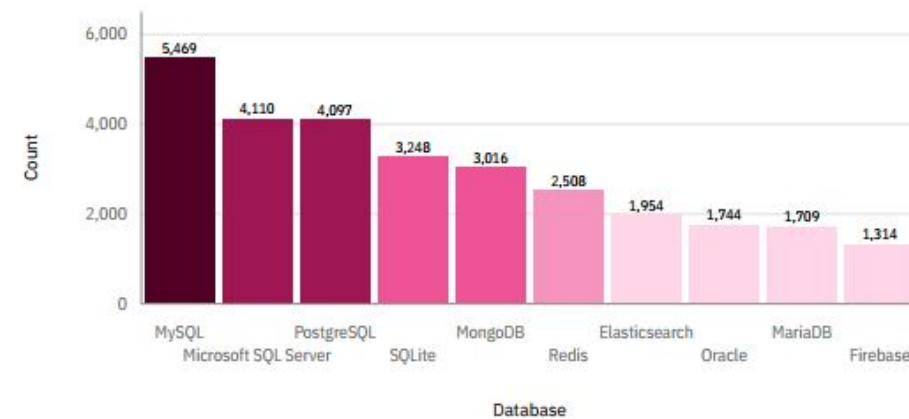
Top Platforms Worked With

0 — 5,811   0 — 5,811

Top 10 Web Frameworks Worked With

939 — 4,629   939 — 4,629
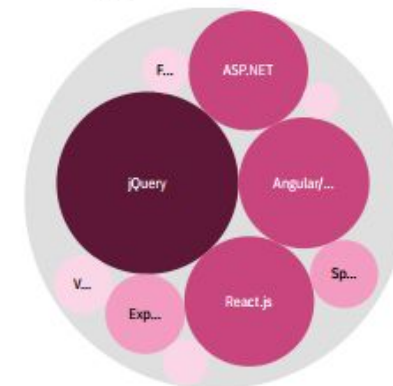
DASHBOARD TAB 2

Future Technology Trend

Top 10 Languages Desired Next Year

Language	Count
JavaScript	6,630
HTML/CSS	5,328
Python	5,239
SQL	5,012
TypeScript	4,088
C#	3,591
Bash/Shell/PowerShell	3,097
Java	2,953
Go	2,759
Kotlin	1,890

Top 10 Databases Desired Next Year

PostgreSQL 4,328 · MongoDB 3,649 · Redis 3,331 · MySQL 3,281 · Elasticsearch 2,856 · Microsoft SQL Server 2,706 · SQLite 2,437 · Firebase 1,650 · MariaDB 1,385 · Dynam... 1,044
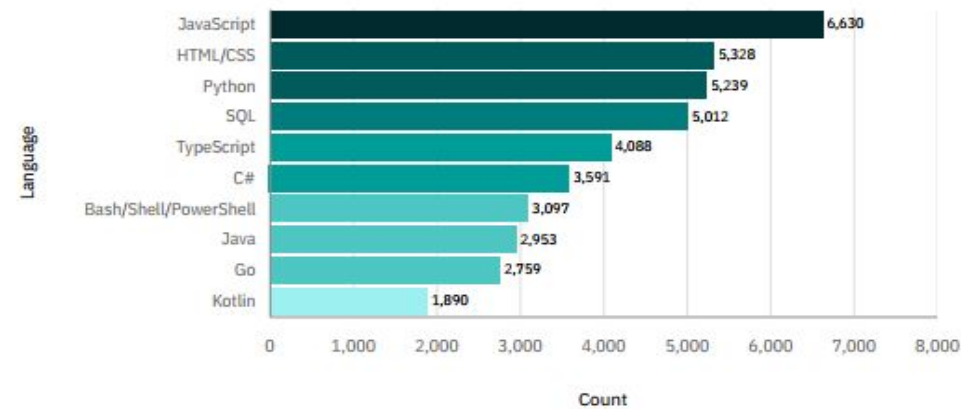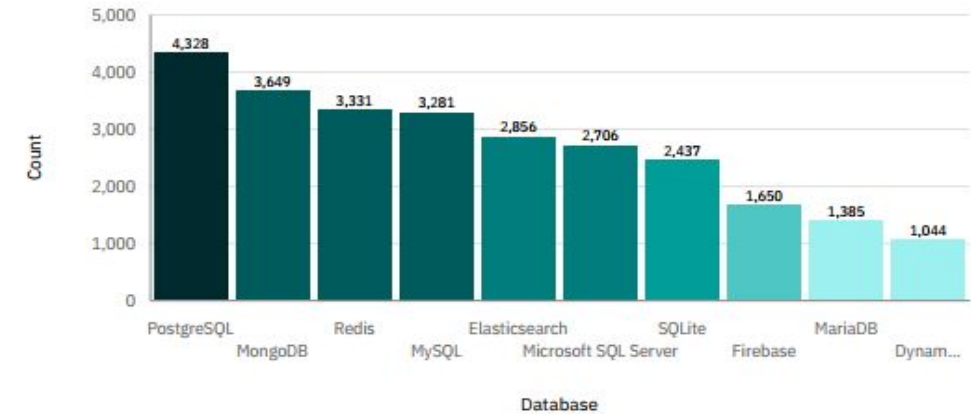
Top Platforms Desired Next Year

0 — 5,865 · 0 — 5,865

Linux · Docker · AWS · Windows · Android · Kubernetes · MacOS · Raspberry Pi · Google Cloud Pl... · Microsoft Azure · iOS · Slack · Arduino · Hero... · WordP... · I...

Top 10 Web Frameworks Desired to Work With Next Year

970 — 4,714 · 970 — 4,714

React.js · Vue.js · Angular/... · jQuery · ASP... · Exp... · S... · D... · F...

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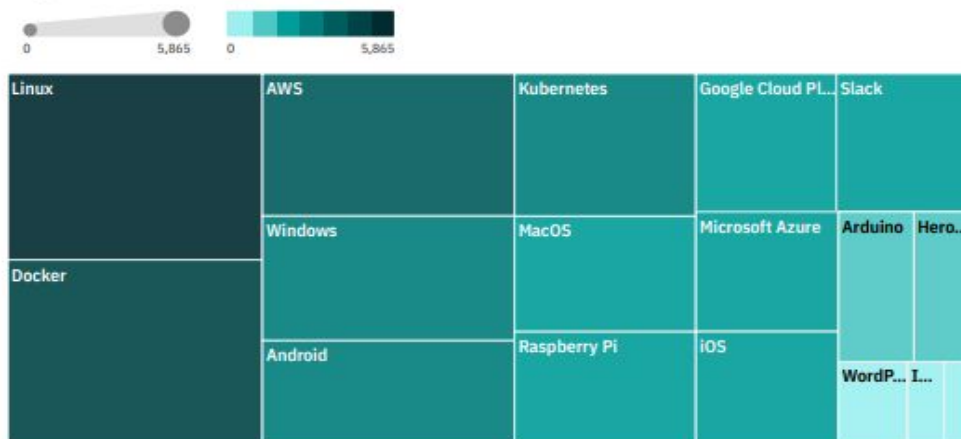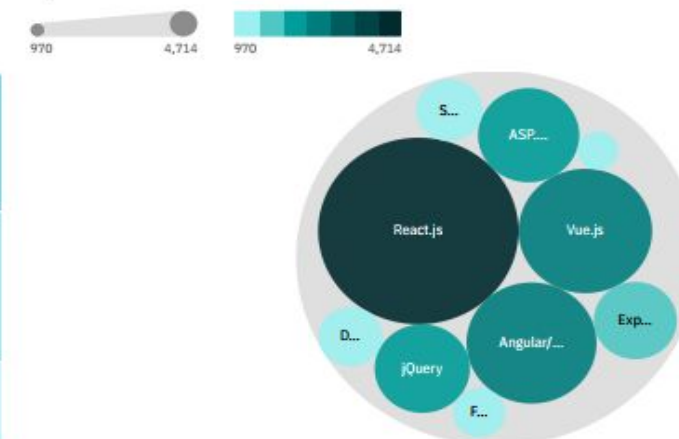
DASHBOARD TAB 3

Demographics

Respondent Count by Gender

Respondent Count by Country

Respondent Count by Age
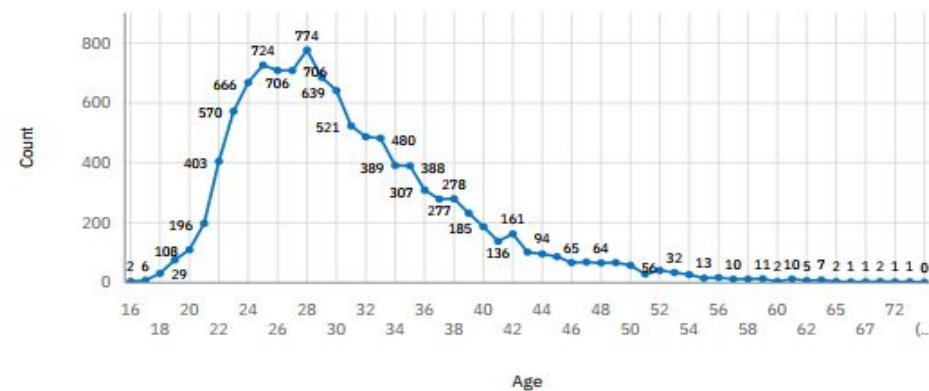
Respondent Education Level Count by Gender

DISCUSSION

Respondent Count by Age
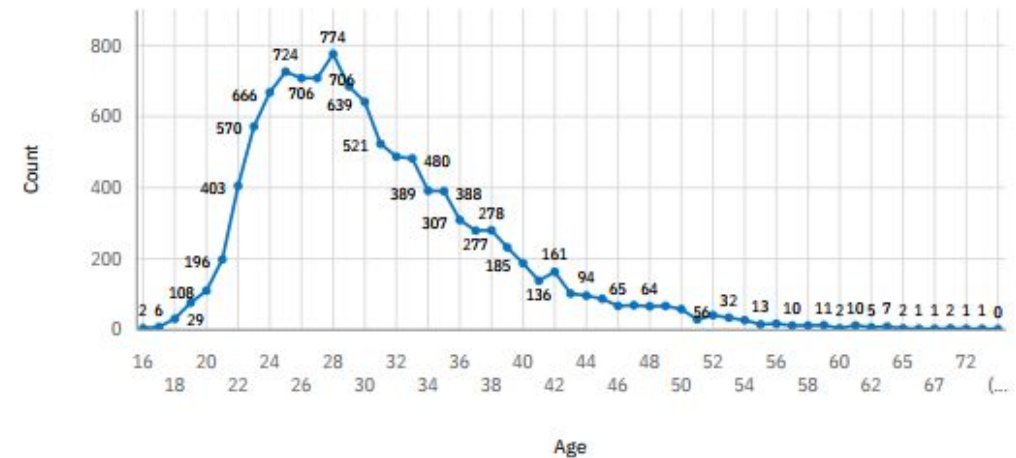
- Majority of respondents are at young age (20, 30s) ⬜ this could skew the result in favor of new technology.

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OVERALL FINDINGS & IMPLICATIONS

Findings

- Web based language stays at No.1
- Non-relational database moves to No.2 & No.3
- Cloud-based platform moves to No.1
- React.js stays at No.1 on web framework.

Implications

- Web based application is taking over the traditional application.
- Non-relational database sees increasing adoption.
- Cloud-based services become top-choice for platform development.

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CONCLUSION

- The findings underscore the dynamic nature of the programming landscape and the critical role of technology in driving innovation across industries

- To stay relevant in the technology field, it's important to learn web-based language & non-relational database.

- Among web framework, React.js is the best to learn for your future.

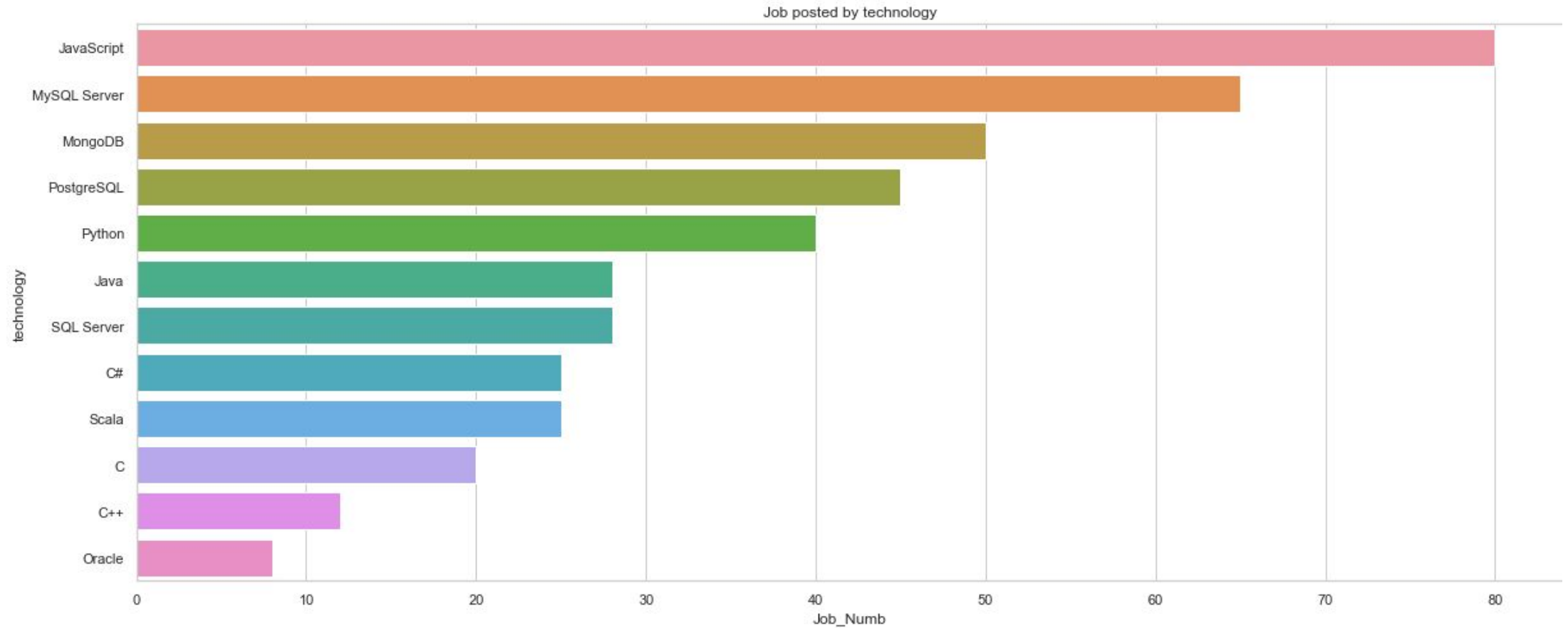- Cloud-based service is the right direction for IT investment.

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APPENDIX

A-Job Posting Chart

B-Popular Languages chart

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A-Job Posting Chart

Job posted by technology

B-Popular Languages chart

Average Annual Salary by Language